

DOCKET NO.: ATTW01-00041 (formerly 1999-0336B-(STG182))
Customer No. 34700

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of : JARI M. HEINONEN, ET AL.

Serial No. : 09/593,547

Filed : June 14, 2000

For : APPARATUS AND METHOD FOR SYNCHRONIZATION IN A
MULTIPLE-CARRIER COMMUNICATIONS SYSTEM BY
OBSERVING A PHASE-FREQUENCY RELATIONSHIP OF A
PLURALITY OF PILOT SIGNALS

Group No. : 2634

Examiner : G. Muñoz

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

**COMBINED REVOCATION OF PREVIOUS
POWER OF ATTORNEY, APPOINTMENT OF NEW
ATTORNEYS, AND STATEMENT UNDER 37 C.F.R. 3.73(b)**

AT&T WIRELESS SERVICES, INC., a Delaware corporation, states that it is:

The assignee of the entire right, title, and interest in the patent application identified above
by virtue of:

An assignment from the inventor(s) of the corresponding patent application as identified
above. The assignment was recorded on September 6, 2000 in the United States Patent and
Trademark Office at Reel 011150, Frame 0219, or for which a copy thereof is attached.

The assignee hereby revokes all previous powers of attorney given.

DOCKET NO.: ATTW01-00041
SERIAL NO.: 09/593,547
PATENT

The assignee hereby appoints all attorneys assigned to:

Customer No.: 34700

as attorneys to prosecute this patent and to transact all business in the United States Patent and Trademark Office connected therewith.

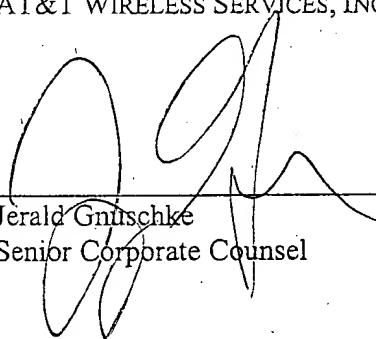
The assignee requests that all correspondence relating to the above-identified patent be addressed to:

Customer No.: 34700

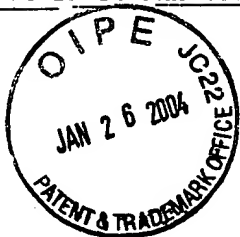
AT&T WIRELESS SERVICES, INC.

Date: _____

11/12/03



Jerald Gnuschke
Senior Corporate Counsel



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
ASSISTANT SECRETARY AND COMMISSIONER
OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

OCTOBER 29, 1997

PTAS



100545058A

AT&T CORP.
SAMUEL H. DWORETSKY
P.O. BOX 4110
MIDDLETOWN, NJ 07748

UNITED STATES PATENT AND TRADEMARK OFFICE
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, NORTH TOWER BUILDING, SUITE 10C35, WASHINGTON, D.C. 20231.

RECORDATION DATE: 09/29/1997

REEL/FRAME: 8718/0050
NUMBER OF PAGES: 11

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

ALAMOUTI, SIAVASH

DOC DATE: 08/27/1997

ASSIGNOR:

CASAS, EDUARDO F.

DOC DATE: 09/15/1997

ASSIGNOR:

HIRANO, MICHAEL

DOC DATE: 09/04/1997

ASSIGNOR:

HOOLE, ELLIOTT

DOC DATE: 09/09/1997

ASSIGNOR:

JESSE, MARY

DOC DATE: 08/27/1997

ASSIGNOR:

MICHELSON, DAVID G.

DOC DATE: 09/12/1997

ASSIGNOR:

POON, PATRICK

DOC DATE: 08/29/1997

AT&T PATENT	
NOV 4 1997	
DOCKET	
ATTORNEY	
WIDE	

8718/0050 PAGE 2

ASSIGNOR:

VEINTIMILLA, GREGORY J.

DOC DATE: 09/04/1997

ASSIGNOR:

ZHANG, HONGLIANG

DOC DATE: 09/04/1997

ASSIGNEE:

AT&T WIRELESS SERVICES, INC.
5000 CARILLON POINT
KIRKLAND, WASHINGTON 98033

SERIAL NUMBER: 08796584

FILING DATE: 02/06/1997

PATENT NUMBER:

ISSUE DATE:

MAYA BENNETT, EXAMINER
ASSIGNMENT DIVISION
OFFICE OF PUBLIC RECORDS

U.S. DEPARTMENT OF COMMERCE
Patent and Trademark Office

SHELL

To the Honorable Commission

THE UNIVERSITY OF CHICAGO PRESS

d original documents or copy thereof

100545058

2. **MAILING OR FAX address of receiving party(ies):**

Name: _____ **AT&T Wireless Services, Inc.**

Internal Address: 5000 Canillon Point

Kirkland, WA 98033

Street Address: 5000 Carillon Point

City: Kirkland State: WA Zip: 98033

Additional name(s) & address(es) attached? ☐ Yes ☐ No

1. Name of conveying party(ies):

Siavash Alamouti
Eduardo F. Casas
Michael Hirano
Elliot Hoole
Mary Jesse
David G. Michelson
Patrick Poon
Gregory J. Veintimilla
Hongliang Zhang

Additional name(s) of conveying party(ies) attached? ☐ Yes ☐ No

3. Nature of conveyance:

☒ Assignment ☐ Merger

☐ Security Agreement ☐ Change of Name

☐ Execution Date: August 27, 1997, August 28, 1997,
September 2, 1997, September 4, 1997, September 9, 1997,
September 15, 1997

☐ Other

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is _____.

A. Patent Application No.(s)

B. Patent No. (s)

Serial No. 08/796.584

Additional numbers attached? ☐ Yes ☐ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Samuel H. Dworesky - AT&T Corp.

Street Address: P. O. Box 4110

City: Middletown, State: New Jersey, Zip: 07748

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41) \$ 40.00

☐ **Enclosed**

X Authorized to be charged to deposit account

8. Deposit account number. 01-2745

(Attach duplicate copy of this page if paying by deposit account)

DO NOT USE THIS SPACE

9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Samuel H. Dworetsky - Reg. No. 27873

Name of Person Signing

Signature

Total number of pages including cover sheet, attachments, and document

Mail documents to be recorded with required cover sheet information to:
Assistant Commissioner for Patents, Box Assignments
Washington, D. C. 20231

10/03/1987 35-FRAGZ 000000Z DMI:012745 06796584
 000000Z DMI:012745 06796584
 01 FC:541 40.00 CH#

S. Alamouti 2-1-1-4-1-1-3-2

ASSIGNMENT AND AGREEMENT

For value received, we, Siavash Alamouti, of Kirkland in the County of King and State of Washington, Eduardo F. Casas, of Vancouver, B.C. Canada, Michael Hirano, of Redmond in the County of King and State of Washington, Elliott Hoole, of Redmond in the County of King and State of Washington, Mary Jesse, of Issaquah in the County of King and State of Washington, David G. Michelson, of North Vancouver, B.C. Canada, Patrick Poon, of Redmond in the County of King and State of Washington, Gregory J. Veintimilla, of Redmond in the County of King and State of Washington, and Hongliang Zhang, of Redmond in the County of King and State of Washington, hereby sell, assign and transfer to AT&T Wireless Services, Inc., a corporation of the State of Delaware, having an office at 5000 Carillon Point, Kirkland, Washington 98033, U.S.A., and its successors, assigns and legal representatives, the entire right, title and interest, for the United States of America, in and to certain inventions related to **Method For Frequency Division Duplex Communications** described in an application for Letters Patent of the United States, Serial No. 08/796584, filed February 6, 1997, and all the rights and privileges in said application and under any and all Letters Patent that may be granted in the United States for said inventions; and we also concurrently hereby sell, assign and transfer to AT&T Wireless Services, Inc. the entire right, title and interest in and to said inventions for all countries foreign to the United States, including all rights of priority arising from the application aforesaid, and all the rights and privileges under any and all forms of protection, including Letters Patent, that may be granted in said countries foreign to the United States for said inventions.

We authorize AT&T Wireless Services, Inc. to make application for such protection in its own name and maintain such protection in any and all countries foreign to the United States, and to invoke and claim for any application for patent or other form of protection for said inventions, without further authorization from us, any and all benefits, including the right of priority provided by any and all treaties, conventions, or agreements.

We hereby consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any document which may be required in any country in proof of the right of AT&T Wireless Services, Inc. to apply for patent or other form of protection for said inventions and to claim the aforesaid benefit of the right of priority.

We request that any and all patents for said inventions be issued to AT&T Wireless Services, Inc. in the United States and in all countries foreign to the United States, or to such nominees as AT&T Wireless Services, Inc. may designate.

- 2 -

S. Alamouti 2-1-1-4-1-1-3-2

We agree that, when requested, we shall, without charge to AT&T Wireless Services, Inc. but at its expense, sign all papers, and do all acts which may be necessary, desirable or convenient in connection with said applications, patents, or other forms of protection.


Siavash AlamoutiDate: August 27, 1997

United States of America)

State of WA) ss.:County of KING)

On this 27th day of August, 1997, before me personally came Siavash Alamouti, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.


Notary Public

- 3 -

S. Alamouti 2-1-1-4-1-1-1-3-2

Eduardo F. Casas
Eduardo F. Casas

Date: Sept. 15 1997

Canada
~~United States of America~~)
Province British Columbia) ss.:
~~State of~~
County of)

On this 15th day of September, 1997, before me personally came Eduardo F. Casas, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.

Richard D. Spratley
Notary Public
RICHARD D. SPRATLEY
NOTARY PUBLIC
2194 HEALTH SCIENCES MALL
VANCOUVER, B.C. V6T 1Z3
(604) 622-8252

- 4 -

S. Alamouti 2-1-1-4-1-1-1-3-2

Michael Hirano
Michael Hirano

Date: 9/4/97

United States of America)
State of WA) ss.:
County of KING)

On this 4th day of September, 19 97, before me personally came Michael Hirano, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.



Ruby Tarr
Notary Public

- 5 -

S. Alamouti 2-1-1-4-1-1-3-2

Elliott Hoole
Elliott Hoole

Date: 9/9/97

United States of America)

State of WA) ss.:County of KING)

On this 9th day of September, 19 97, before me personally came Elliott Hoole, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.



Ruby Tarr
Notary Public

- 6 -

S. Alamouti 2-1-1-4-1-1-3-2

Mary Jesse
Mary Jesse

Date: 8-27-97

United States of America)

State of WA) ss.:County of KING)

On this 27th day of August, 19 97, before me personally came Mary Jesse, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.

Ruby Tarr
Notary Public



- 7 -

S. Alamouti 2-1-1-4-1-1-3-2

David G. Michelson
David G. Michelson

Date: 2 Sept 1997

United States of America)

State of WA) ss.:County of KING)

On this 2nd day of September, 1997, before me personally came David G. Michelson, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.



Ruby Tarr
Notary Public

- 8 -

S. Alamouti 2-1-1-4-1-1-3-2


Patrick PoonDate: 8 29.97

United States of America)

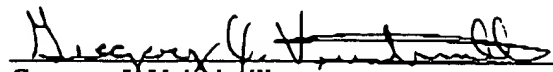
State of WA) ss.:County of KING)

On this 29th day of August, 1997, before me personally came Patrick Poon, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.


Notary Public

- 9 -

S. Alamouti 2-1-1-4-1-1-1-3-2


Gregory J. Veintimilla

Date: 9/4/97

United States of America)
State of WA) ss.:
County of KING)

On this 4th day of September, 19 97, before me personally came Gregory J. Veintimilla, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.




Notary Public

- 10 -

S. Alamouti 2-1-1-4-1-1-3-2

Hongliang Zhang
Hongliang Zhang

Date: Sept. 4, 97

United States of America)

State of WA) ss.:County of KING)

On this 4th day of September, 19 97, before me personally came Hongliang Zhang, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.



Ruby Tarr
Notary Public

AT&T Wireless Services, Inc.
P. O. Box 4110
Middletown, New Jersey 07748



SH7
UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
ASSISTANT SECRETARY AND COMMISSIONER
OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

OCTOBER 21, 1997

PTAS

AT&T CORP.
SAMUEL H. DWORETSKY
P.O. BOX 4110
MIDDLETOWN, NJ 07748



100537273A

UNITED STATES PATENT AND TRADEMARK OFFICE
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, NORTH TOWER BUILDING, SUITE 10C35, WASHINGTON, D.C. 20231.

RECORDATION DATE: 09/16/1997

REEL/FRAME: 8703/0993
NUMBER OF PAGES: 3

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:
HOOLE, ELLIOTT

DOC DATE: 09/09/1997

ASSIGNEE:
AT&T WIRELESS SERVICES, INC.
5000 CARILLON POINT
KIRKLAND, WASHINGTON 98033

SERIAL NUMBER: 08796491
PATENT NUMBER:

FILING DATE: 02/06/1997
ISSUE DATE:

TONYA LEE, EXAMINER
ASSIGNMENT DIVISION
OFFICE OF PUBLIC RECORDS

AT&T PATENT	
3 1997	
DOCKET	
ATTORNEY	
COPY MADE	
FILED	

E. Hoole 1

ASSIGNMENT AND AGREEMENT

For value received, I, Elliott Hoole, of Redmond in the County of King and State of Washington, hereby sell, assign and transfer to AT&T Wireless Services, Inc., a corporation of the State of Delaware, having an office at 5000 Carillon Point, Kirkland, Washington 98033, U.S.A., and its successors, assigns and legal representatives, the entire right, title and interest, for the United States of America, in and to certain inventions related to **Delay Compensation** described in an application for Letters Patent of the United States, Serial No. 08/796491, filed February 6, 1997, and all the rights and privileges in said application and under any and all Letters Patent that may be granted in the United States for said inventions; and I also concurrently hereby sell, assign and transfer to AT&T Wireless Services, Inc. the entire right, title and interest in and to said inventions for all countries foreign to the United States, including all rights of priority arising from the application aforesaid, and all the rights and privileges under any and all forms of protection, including Letters Patent, that may be granted in said countries foreign to the United States for said inventions.

I authorize AT&T Wireless Services, Inc. to make application for such protection in its own name and maintain such protection in any and all countries foreign to the United States, and to invoke and claim for any application for patent or other form of protection for said inventions, without further authorization from me, any and all benefits, including the right of priority provided by any and all treaties, conventions, or agreements.

I hereby consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any document which may be required in any country in proof of the right of AT&T Wireless Services, Inc. to apply for patent or other form of protection for said inventions and to claim the aforesaid benefit of the right of priority.

I request that any and all patents for said inventions be issued to AT&T Wireless Services, Inc. in the United States and in all countries foreign to the United States, or to such nominees as AT&T Wireless Services, Inc. may designate.

- 2 -

E. Hoole 1

I agree that, when requested, I shall, without charge to AT&T Wireless Services, Inc. but at its expense, sign all papers, and do all acts which may be necessary, desirable or convenient in connection with said applications, patents, or other forms of protection.

Elliott Hoole

Elliott Hoole

Date: 9/9/97

United States of America)

State of WA) ss.:County of KING)

On this 9th day of September, 19 97, before me personally came Elliott Hoole, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.

Ruby Tarr
Notary Public

AT&T Wireless Services, Inc.
P. O. Box 4110
Middletown, New Jersey 07748



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
ASSISTANT SECRETARY AND COMMISSIONER
OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

TMI
1999-0336 B

DECEMBER 06, 2000

PTAS

AT&T CORP.
SAMUEL H. DWORETSKY
P.O. BOX 4110
MIDDLETOWN, NJ 07748-4110



RECEIVED

JAN 29 2004

Technology Center 2600

UNITED STATES PATENT AND TRADEMARK OFFICE
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 09/06/2000

REEL/FRAME: 011150/0219
NUMBER OF PAGES: 4

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

HEINONEN, JARI M.

DOC DATE: 07/21/2000

ASSIGNOR:

HIRANO, MICHAEL R.

DOC DATE: 07/27/2000

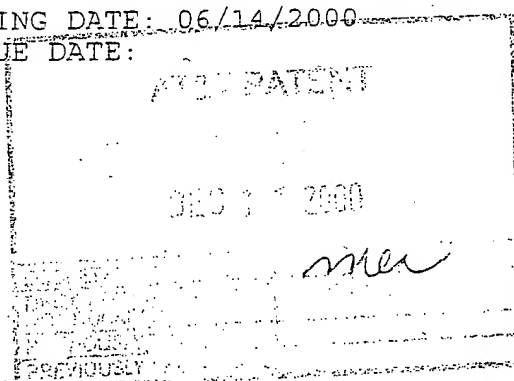
ASSIGNEE:

AT&T WIRELESS SERVICES, INC.
7277 164TH AVENUE NE
REDMOND, WASHINGTON 98052

SERIAL NUMBER: 09593547
PATENT NUMBER:

FILING DATE: 06/14/2000
ISSUE DATE:

ANTIONE ROYALL, EXAMINER
ASSIGNMENT DIVISION
OFFICE OF PUBLIC RECORDS



10-16-2000

U.S. DEPARTMENT OF COMMERCE
Patent and Trademark Office

RE



ET

101488095

To the Honorable Assistant Commission...

al documents or copy thereof.

1. Name of conveying party(ies):

Jari M. Heinonen
Michael R. Hirano

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

3. Nature of conveyance:

- ☒ Assignment ☐ Merger
☐ Security Agreement ☐ Change of Name
☐ Other

Execution Date: 07/21/00; 07/27/00

2. Name and address of receiving party(ies):

Name: AT&T Wireless Services, Inc.

Internal Address: _____

Street Address: 7277 164th Avenue NE

City: Redmond State: Washington ZIP: 98052

Additional name(s) & address(es) attached? ☐ Yes ☒ No

4. Application number(s) or patent number(s):

MRD 9/6/00

If this document is being filed together with a new application, the execution date of the application is _____

A. Patent Application No 09/593,547

B. Patent No. (s)

Additional numbers attached? ☐ Yes ☒ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Mr. Samuel H. Dworetsky

Street Address: AT&T Corp.
P.O. Box 4110

City: Middletown State: New Jersey ZIP: 07748-4110

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41) \$ 40.00

☐ Enclosed

☒ Authorized to be charged to deposit account

8. Deposit account number: 01-2745

(Attach duplicate copy of this page if paying by deposit account)

10/13/2000 DEYRNE 00000053 012745 09593547

DO NOT USE THIS SPACE

91 EC:581 40.00 CH

9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Ann E. Taylor

Name of Person Signing

Ann E. Taylor
Signature

Aug. 30, 2000
Date

Docket No. 1999-0336B Total number of pages including cover sheet, attachments, and document: 4

Mail documents to be recorded with required cover sheet information to:
Assistant Commissioner of Patents, Box Assignments
Washington, D. C. 20231

ASSIGNMENT AND AGREEMENT

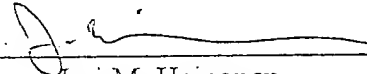
For value received, we, Jari M. Heinonen, of Seattle in the County of King and State of Washington, and Michael R. Hirano, of Redmond in the County of King and State of Washington, hereby sell, assign and transfer to AT&T Wireless Services, Inc., a corporation of the State of Delaware, having an office at 7277 164th Avenue NE, Redmond, Washington 98052, and its successors, assigns and legal representatives, the entire right, title and interest, for the United States of America, in and to certain inventions related to Apparatus And Method For Synchronization In A Multiple-Carrier Communication System By Observing A Phase-Frequency Relationship Of A Plurality Of Pilot Signals, described in an application for Letters Patent of the United States, Serial No. 09/593,547, filed June 14, 2000, and based on our prior provisional application, Serial No. 60/140,465, filed June 23, 1999, and all the rights and privileges in said application and under any and all Letters Patent that may be granted in the United States for said inventions; and we also concurrently hereby sell, assign and transfer to AT&T Wireless Services, Inc., the entire right, title and interest in and to said inventions for all countries foreign to the United States, including all rights of priority arising from the application aforesaid, and all the rights and privileges under any and all forms of protection, including Letters Patent, that may be granted in said countries foreign to the United States for said inventions.

We authorize AT&T Wireless Services, Inc. to make application for such protection in its own name and maintain such protection in any and all countries foreign to the United States, and to invoke and claim for any application for patent or other form of protection for said inventions, without further authorization from us, any and all benefits, including the right of priority provided by any and all treaties, conventions, or agreements.

We hereby consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any document which may be required in any country in proof of the right of AT&T Wireless Services, Inc. to apply for patent or other form of protection for said inventions and to claim the aforesaid benefit of the right of priority.

We request that any and all patents for said inventions be issued to AT&T Wireless Services, Inc. in the United States and in all countries foreign to the United States, or to such nominees as AT&T Wireless Services, Inc. may designate.

We agree that, when requested, we shall, without charge to AT&T Wireless Services, Inc. but at its expense, sign all papers, and do all acts which may be necessary, desirable or convenient in connection with said applications, patents, or other forms of protection.


Jari M. Heinonen

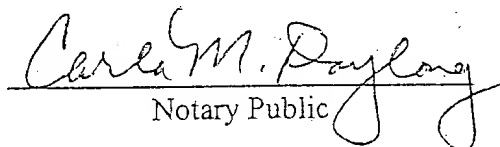
Date: 7/21/00

United States of America)

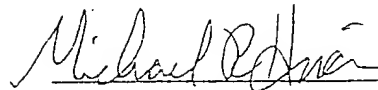
State of Washington)ss:

County of King)

On this 21st day of July, 2000 before me personally came Jari M. Heinonen, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.


Notary Public

CARLA M. DAYLONG
MY APPOINTMENT EXPIRES: 4-28-01



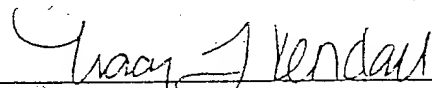
Michael R. Hirano

Date: 7/27/2000

United States of America

State of WashingtonCounty of King

On this 27th day of July, 2000, before me personally came Michael R. Hirano, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.



Notary Public

TRACY L. KENDALL

MY APPOINTMENT EXPIRES: 4-28-01

AT&T Corp.

P. O. Box 4110

Middletown, New Jersey 07748-4110